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The Journal of the University of Zimbabwe

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This is the fifth Education Supplement to *Zambezia*.

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INTRODUCTION

One feature of the present number has occurred quite by coincidence rather than from any intention on the part of the editorial team. As it happens, each of the four contributors is a current Chairman of one of the Faculty of Education's constituent departments. Accordingly, the reader will look in vain for any thematic approach to some particular area of educational theory. Instead, however, there is something of a microcosmic view of the kind of ideas and arguments which enliven the work of this particular community of academic educationists in Africa and, in particular, in Zimbabwe.

Obert Maravanyika's paper discusses the inadequacies of the present methods of analysing and describing the curriculum. It is his conclusion that no one method in isolation can provide an adequate analysis and that a systematic synthesis of various techniques is necessary.

Cowden Chikombah draws attention to the need for professional groups to play a more active part in formulating ethical codes and guidelines for teachers. He argues that through lack of such professional influence, educational administrators may sometimes abuse their power.

Ben Siyakwazi's contribution is concerned with the need to relate educational theory and practice. His study of Booker T. Washington's 'Grand Trinity' —mind, hand and heart — draws an analogy with the taxonomy of learning subsequently laid down by Benjamin Bloom.

Norman Atkinson draws attention to the educational role of story-telling in traditional African society and suggests a number of ways in which the content and methodology of the traditional stories can be used in the curriculum of the present-day schools.

The Editors

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TOWARDS A CURRICULUM ANALYSIS MODEL FOR NATIONAL DEVELOPMENT

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IN THIS ARTICLE, it will be postulated that existing methods of analysis and describing the curriculum, as a basis for providing information feedback in order to understand its planning and development, are inadequate. The article thus focuses on a critical analysis of some of the current approaches of describing and analysing the curriculum as a basis for decision-making for its planning and development. These include curriculum evaluation, curriculum criticism, contextual or situational analysis, functional analysis and curriculum analysis. It will be argued that curriculum analysis for planning and development should go beyond teasing out and rationalizing different antecendents, as is the case in contextual analysis, or simply providing information to decision-makers on the conditions under which certain objectives can be achieved, as in some aspects of quantitative curriculum evaluation. Rather, curriculum analysis should also provide information on how antecedents influence decision-making as extrinsic factors, and how selection from some of them is made for inclusion into curriculum content initially as a plan and later translated into curriculum as action. More importantly, it should provide a rationale to help account for decisions or actions taken with regard to its planning and development. It is hoped that through a selective synthesis of some of the relevant methods and processes of the above approaches, a more effective method of curriculum analysis will emerge which will help in providing adequate and more illuminating information on curriculum antecedents and processes on the basis of which decisions on its planning and development can be made.

CURRICULUM EVALUATION AS A TOOL FOR CURRICULUM ANALYSIS

It will be argued that curriculum evaluation alone cannot meet the demands of curriculum analysis for curriculum planning and development because evaluation goals and methods are rather limited, but that, together with other methods of collecting and analysing data, some of its concepts can be used in evolving a useful model of curriculum analysis.

The concept of 'evaluation', its roles, goals and methods

The concept of evaluation has been variously defined by, among others, Tyler,[1] Cronbach,[2] Stake,[3] and Parlett and Hamilton.[4] The definition selected in each case tends to be related to the role of evaluation subsequently adopted. For example, Tyler focuses on educational objectives and defines evaluation as 'the process of determining to what extent the educational objectives are actually being realized'.[5] Cronbach, on the other hand, focuses on 'the decision' and defines evaluation as 'the collection and use of information to make decisions about an educational programme'.[6] Generally, however, evaluation is focused on collecting specific information relevant to a specific problem, programme or product. Such information can, according to Scriven, be used for several *roles* in a project and to each of these roles it may have several *goals*.[7] An evaluation can contribute towards the development of curriculum (formative and summative role), the prediction of academic success, or the improvement of an existing course. These are, however, *roles* it can play and not the *goals* it seeks. The goal of evaluation must be to answer questions of selection, adoption, support and worth of educational materials and activities.

Evaluation methods of collecting, analysing and interpreting data have tended to fall into either of two broad paradigms — namely the classical scientific approach and the responsive illuminative approach. These differences may, however, be more properly thought of as the ends of a continuum rather than as a dichotomy.

The quantitative, classical, scientific paradigm has, according to Cook and Reichardt,[8] 'a positivist, hypothetico-deductive, particularistic, objective, outcome-oriented and natural-science world view'. A typical definition of evaluation in this paradigm would be one like Berk's which sees evaluation as 'the process of applying scientific procedures to collect reliable and valid information to make

[1] R. W. Tyler, *Basic Principles of Curriculum and Instruction* (Chicago, Univ. of Chicago Press, 1949).

[2] L. J. Cronbach, 'Course improvement through evaluation', *Teachers College Record* (1962/3), LXIV, 672–83.

[3] R. Stake, 'The countenance of educational evaluation', *Teachers College Record* (1967) LXVIII, 523–40.

[4] M. Parlett and D. Hamilton, 'Evaluation as illumination', in D. Tawney (ed.), *Curriculum Evaluation Today: Trends and Implications* (London, Macmillan, 1976), 85–99.

[5] Tyler, *Basic Principles of Curriculum and Instruction*, 69.

[6] Cronbach, 'Course improvement through evaluation', 672.

[7] M. Scriven, 'The methodology of evaluation', in *Perspectives of Curriculum Evaluation* (Chicago, Rand McNally, AERA Monograph Series in Curriculum Evaluation 1, 1967), 32–82.

[8] T. D. Cook and C. S. Reichardt, 'Beyond qualitative versus quantitative methods in evaluation research', in their *Qualitative and Quantitative Methods in Evaluation Research* (Beverly Hills CA, Sage,1979), 10.

decisions about an educational programme'.[9] Evaluation strategies in this definition include a confluence of developments in measurement theory, research design, applied statistics and computer technology from the social sciences. 'Reliable and valid information' in the definition implies the use of formal data-gathering instruments (tests, scales and questionnaires) that have established psychometric properties. In contrast, the qualitative, responsive, illuminative paradigm is said 'to subscribe to a phenomenological, inductive, holistic, subjective, process-oriented and social anthropological world view'.[10] According to Stake, 'an educational evaluation is responsive evaluation if it orients more directly to programme intents, responds to audience requirements for information, and if the different value perspectives present are referred to in reporting the success or failure of the programme'.[11] This distinctly shows the differences in organizers from 'intents' in the former to 'concerns and issues stemming from several audiences' in the latter. Data-gathering techniques in the former tend to be quantitative and in the latter, qualitative. In practice, however, there are a lot of grey areas where techniques from either paradigm tend to reinforce each other.

A critical analysis of the goals, methods and theory of evaluation as a tool for curriculum analysis

The goals, methods and theory of evaluation in general cannot provide adequate tools for curriculum analysis.

Firstly, the goals of evaluation are limited, irrespective of whichever organizers are used. The traditional concern of evaluation with pupil acheivement was exposed by Tyler.[12] He rightly pointed out that tests tended to concentrate on differentiating individual differences among pupils rather than focusing on the effect the programmes had on them. But his own objectives model was criticized by, among others, Cronbach,[13] Stake,[14] Eisner,[15] and Stenhouse[16] for failing to provide a methodology for data-collecting and for failing to show how objectives

[9] R. A. Berk (ed.), *Educational Evaluation Methodology* (Baltimore, Johns Hopkins Univ. Press, 1981), 4.

[10] Cook and Reichardt, 'Beyond qualitative versus quantitative methods in evaluation research', 10.

[11] R. Stake, referred to in C. Parsons, 'A policy for educational evaluation', in D. Lawton and C. Lacey (eds.), *Issues in Evaluation and Accountability* (London, Methuen, 1981), 48.

[12] Tyler, *Basic Principles of Curriculum and Instruction*

[13] Cronbach, 'Course improvement through evaluation'.

[14] Stake, 'The countenance of educational evaluation'.

[15] E. W. Eisner, 'Instructional and expressive objectives: Their formation and use in curricula', in *Instructional Objectives* (Chicago, Rand McNally, AERA Monograph Series in Curriculum Evaluation 3, 1970).

[16] L. Stenhouse, *An Introduction to Curriculum Research and Development* (London, Heinemann, 1975).

themselves could be evaluated since they were not necessarily value-free. Stake's 'countenance model'[17] was an improvement on Tyler's 'objectives model'[18] in that it expanded the concept of objective to include conceptual factors as well as objectives for teachers and other agents. He further provided a basis for the evaluation of objectives by requiring a justification for them in terms of some explicit rationale. He also included a focus on judgement as a major aspect of evaluation, regarding the complete act as involving both description and judgement — 'the two countenances' —, and further suggested means for deriving judgemental standards distinguishing between absolute and relative standards. But he, too, left the means for deriving the standards largely unspecified, providing little operational guidance to the evaluator on this important issue. He did not come to grips with the question of how to manage competing values whether in setting intents or in deriving standards. He continued the assumption that had been implict in Tyler's rationale[19] — indeed in all non-responsive models — that societal goals converge. Consensus was deemed possible and value pluralism ignored.

For purposes of curriculum analysis for its planning and development, the society in which a curriculum operates cannot be treated as if it had common goals and values. These have to be looked at as problematic and not as givens if value pluralism is not to be ignored. The analyst has to identify the different interest groups, their value orientations and the sources and targets of these values. Similar appraisals could be made of evaluation models based on different organizers like Cronbach's 'decision',[20] 'effects' in Scriven's 'goal-free model',[21] and 'issues and concerns of stake-holding audiences' in Stake's 'responsive model';[22] but not one has goals broad enough to meet all the needs of an evaluator, and it is this information on antecedents of goals and other processes that curriculum analysis should look for.

Secondly, the methods of curriculum evaluation as applied in the different models are inadequate to meet the needs of curriculum analysis envisaged. Although in theory the gap between quantitative and qualitative approaches is closing, in practice it is the quantitative approach which tends to be popular —especially with policy-makers and other commissioners of evaluations as it provides them with quantifiable data in facts and figures. In fact, even at the

[17] Stake, 'The countenance of educational evaluation'.

[18] Tyler, *Basic Principles of Curriculum and Instruction.*

[19] Ibid.

[20] Cronbach, 'Course improvement through evaluation'.

[21] Scriven, 'The methodology of evaluation'.

[22] R. Stake, *Evaluating the Arts in Education: A Responsive Approach* (Columbus OH, Merrill, 1975).

theoretical level the gap could be considered as closing only in the sense that the differences could be more properly thought of as opposite ends of a continuum rather than a dichotomy, but there are still fundamental philosophical differences between theorists at the extreme ends of the continuum. At the one end of the continuum are theorists in the scientific paradigm who see the goal of evaluation as describing and passing judgements on the worth of a programme to guide decision-makers, while at the other end are those in the responsive paradigm who see the function of evaluation as descriptive and illuminative.

The weaknesses of the quantitative paradigm are well documented by theorists such as Scriven,[23] Parlett and Hamilton,[24] Eisner,[25] and Stenhouse[26] who tend to lean more towards the responsive model. The model tends to reify society and as a result tends to ignore value pluralism as it is 'positivistic, hypothetico-deductive, objective and outcome-oriented'[27]. Yet most modern societies are increasingly becoming multicultural, and therefore an evaluation model that ignores this misses out on useful data that would increase an understanding of the curriculum. Macdonald notes that 'many curriculum workers with a fundamentally technological orientation are not aware of their value base nor even aware that the values reflected in their work are not subject to their control'.[28] And yet such values are vital to our understanding of the curriculum both as a plan and as action.

Responsive models have been criticized for depending on personal skills rather than professional or disciplinary expertise. Parsons argues that illuminative evaluation is nothing more than description as it does not contain enough rigour in terms of its methodology.[29] But for purposes of curriculum analysis, it will be argued that this method, reinforced by data-collecting methods from psychometric models, can contribute meaningfully towards curriculum analysis as I see it.

Thirdly, the theory and practice of evaluation tend to set limits on the extent to which evaluation can help us in curriculum analysis for its planning and development. Evaluation invariably tends to look at specific issues in the curriculum or at specific problems at specific periods in a programme's

[23] Scriven, 'The methodology of evaluation'.

[24] Parlett and Hamilton, 'Evaluation as illumination'.

[25] Eisner, 'Instructional and expressive objectives'.

[26] Stenhouse, *An Introduction to Curriculum Research and Development.*

[27] Cook and Reichardt, 'Beyond qualitative versus quantitative methods in evaluation research', 10.

[28] B. Macdonald, 'Evaluation and the control of education', in Tawney (ed.), *Curriculum Evaluation Today*, 132.

[29] C. Parsons, 'The new evaluation: A cautionary note', *Journal of Curriculum Studies* (1976), VIII, 125–38.

development. It does not always show how a project operates in relation to the educational system in which it is based. Curriculum analysis as it is envisaged aims at placing the project in its social, economic, political and educational context. A curriculum analyst should look into the curriculum like a researcher *qua* researcher whose findings could be used or ignored. He aims at helping those concerned with the project — teachers, planners in the curriculum centre, policy-makers and academics — to understand it better. Although his findings might have political implications for the project, such considerations should not affect his impartiality. Such a person could probably be an academic close to what Mannheim calls the 'unattached intelligentsia'.[30]

This brings us to a fundamental difference between curriculum evaluation and curriculum analysis for curriculum planning and development as I see it. Whereas curriculum evaluation is usually seen as something which is undertaken by an evaluator who is in some way apart from a project, either being called in at a specific time or being consulted periodically to gather information that will help in decision-making about that particular project, curriculum analysis aims at unveiling or uncovering durable relationships between curriculum antecedents and processes which could be useful for guiding future curriculum planning and development. Curriculum analysis addresses itself to both the theory and practice of curriculum whereas evaluation findings seldom feed back to improve evaluation theory. Its priorities are to the commissioners of the evaluation. But, in spite of these weaknesses, evaluation can still play an important part in curriculum analysis, as will be seen below.

Aspects of evaluation theory useful for curriculum analysis

Earlier in this article, it was suggested that those curriculum evaluation approaches that focus on the collection and analysis of data for curriculum improvement will be considered for inclusion in an attempt to develop a more comprehensive approach to curriculum analysis. It is in this context that the models of Cronbach,[31] Scriven,[32] and Stake[33] will be considered. Cronbach contends that evaluation should not necessarily concern itself with making judgements about the merits or demerits of a programme.[34] It should be directed towards course improvment with a focus on decision-making. Decision-makers at different levels of planning and development should be identified and so should

[30] See D. Lawton, *Social Change, Educational Theory and Curriculum Planning* (London, Hodder and Stoughton, 1973), 38.

[31] Cronbach, 'Course improvement through evaluation'.

[32] Scriven, 'The methodology of evaluation'.

[33] Stake, *Evaluating the Arts in Education.*

[34] Cronbach, 'Course improvement through evaluation', 672.

the grounds on the basis of which they make their decisions. It is sometimes the case that decision-makers are identified with a certain philosophy of education, religious belief, political ideology, or, in the case of materials supply, they could be associated with a business concern as is a publisher or supplier of stationery. Such beliefs and links could influence the curriculum considerably for better or for worse. Cronbach's concern with course material improvement with regard to its geographical and temporal reference[35] is important for curriculum in action —especially where materials are made at a central curriculum centre that serves the whole country but gives little consideration to regional differences. He also emphasizes the importance of asking scholars whether statements made in the course are consistent with the best contemporary knowledge, and for their opinions on the merits of the methods used. This is very useful for curriculum analysis as it is sometimes the case that new knowledge in an area is sacrificed on the altar of economic expediency, especially if introducing the latest ideas entails an injection of scarce funds to provide new curriculum materials.

Lastly, Cronbach suggests the use of process studies, proficiency measures, attitude measures and follow-up studies in gathering and processing information. These are processes previously associated with summative evaluation, but Cronbach saw their potential use in enabling those involved in curriculum planning and development to understand the curriculum better. For Cronbach, evaluation is a fundamental part of curriculum development not an appendage.[36] He sees its job as being to collect facts that the course developer can and will use to do a better job, and facts from which a deeper understanding of the educational process will emerge.

The above aspects of curriculum evaluation are useful for curriculum analysis because, basically, they focus on course improvement rather than on passing judgement on its worth or merit. My concern in curriculum analysis is to find out how the curriculum operates, with a view to improving on it.

Scriven is probably best known for making the distinction between roles and goals of evaluation and for identifying two important roles, the formative and summative roles.[37] Although the distinction between formative and summative evaluation is somewhat unclear, he emphasized the importance of making evaluation a part of curriculum development from the beginning to the end of a project as opposed to earlier practice where evaluation came mostly at the end. This is important for curriculum analysis as it provides continuous feedback which will help our understanding of how the curriculum operates. He also suggested the evaluation of goals themselves, and content and methods (which he called intrinsic evaluation) with a view to checking on causal relationships

[35] Ibid., 673.

[36] Ibid., 683.

[37] Scriven, 'The methodology of evaluation',

sometimes made between goals, methods, content and outcomes; and that external judgement should be solicited on the cohesiveness of alleged goals, actual content and the test-questions pool. This, he suggested, could be done through consistency analysis. The whole question of intrinsic evaluation or internal consistency of a curriculum is central to curriculum analysis for its planning and development. It is mostly on assumptions made about this consistency that rational curriculum planning is attempted at all.

Scriven also suggested investigations into secondary and tertiary effects of the curriculum.[38] This is important as it shows a realization that curriculum influence can go beyond the target group (who are the pupils) and affect significantly the behaviour of teachers and their helpers (secondary effect) or the school and the community (tertiary effect). This might result in the school attracting more community support if the effect is positive, or attracting poor publicity if it is negative.

Stake's model of evaluation is also consistent with my view of curriculum analysis for curriculum planning and development.[39] Most of what he says has already been covered above in relation to the work of Cronbach and Scriven. His special contribution for my purpose is his rationalization of intents, processes and outcomes in curriculum planning and development. Firstly, he advises evaluators to concern themselves with the rationale of any programme and its justification. This is seldom articulated and yet the rationale forms the basis of most curriculum decisions and activities. Secondly, he advises that the evaluator should have a clear indication of the objectives or intents of the programme. Where these are not articulated, Stake advises that the evaluator should help with their formulation. Once these have been established, antecedents, transactions and outcomes of the project can be outlined with a view to assessing for congruence between intended antecedents and observed antecedents, intended transactions and observed transactions, and intended outcomes and observed outcomes. The evaluator is also advised to investigate the logical contingency between intended antecedents and transactions and between intended transactions and intended outcomes. He should further investigate for empirical contingency between observed antecedents and observed transactions and between observed transactions and observed outcomes.

Stake defines an antecedent as 'any condition exisiting prior to teaching and learning which may relate to outcomes'.[40] This includes the status of the student prior to his lesson, such as his aptitude, his previous experience, and interest.

[38] Ibid.,

[39] R. Stake, *Evaluating Educational Programmes: The Need and the Response* (Paris, OECD, 1976).

[40] Stake, 'The countenance of educational evaluation', 528.

Transactions are 'countless encounters of students with teacher, student with student, author with reader, parent with counsellor — the succession of engagements which comprise the process of education'. Examples would include the presentation of a film, class discussion, some work problems and teachers' comments on pupils' work. Transactions are dynamic whereas outcomes and antecedents are relatively static. Outcomes would include achievements of pupils, attitudes, aspirations of students resulting from going through a programme, and attainment of specific skills. Evaluators could prepare records of what educators intend to do, what observers perceive, what patrons generally expect, and what judges value the immediate programme to be. In addition to this, the usual techniques of evaluation, such as the use of inventory and biographical data, interviews, check-lists and questionnaires, can be used to collect and process evidence.

The above are aspects of some of the evaluation models that I consider useful for curriculum analysis. It will be noted that the evaluation models they are derived from belong to both the pre-ordinate and responsive ends of the evaluation theory continuum but they do not represent extreme views on either end. This is because I believe that both quantitative and qualitiative models of evaluation can make useful contributions towards a model of curriculum analysis. For example, a curriculum analyst will need to know the programme intents, its goals and objectives (pre-ordinate end) as much as he will need to know audience concerns and issues, programme activities or problems of persons, in and around the project (responsive end).

The evaluator uses objective methods of collecting and analysing data such as testing and attitude measurement as much as he will make use of observations and interviews. He will need as feedback written reports identifying variables and depicting the relationships between them as much as he will need narrative-type descriptions and oral presentations. Table I shows a comparison of pre-ordinate and responsive evaluation models.

CURRICULUM CRITICISM AS A TOOL FOR CURRICULUM ANALYSIS

The focus of curriculum criticism

According to Eraut *et al.*, there is as yet no documentary evidence on which to base a formal curriculum criticism model.[41] It has, however, existed as a part of qualitative or responsive curriculum evaluation and as a part of curriculum research.

[41] M. Eraut *et al.*, *The Analysis of Curriculum Materials* (Brighton, Univ. of Sussex, Educational Area, Occasional Paper 2, 1975).

Table I

COMPARISON OF PRE-ORDINATE AND RESPONSIVE EVALUATION MODELS

Comparison item	*Type of evaluation*	
	Pre-ordinate	*Responsive*
Orientation	Formal.	Informal.
Value Perspective	Singular; consensual.	Pluralistic; possibility of conflict.
Basis for evaluation design (organizer)	Program intents, objectives, goals, hypotheses; evaluator preconceptions such as performance, mastery, ability, aptitude, measurable outcomes; the instrumental values of education.	Audience concerns and issues; programme activities; reactions, motivations, or problems of persons in and around the evaluand.
Design completed when?	At beginning of evaluation.	Never — continuously evolving.
Evaluator role	Stimulator of subjects with a view to testing critical performance.	Stimulated by subject and activities.
Methods	Objective; 'taking readings' — for example, testing.	Subjective — for example, observations and interviews; negotiations and interactions.
Communication	Formal; reports; typically one-stage.	Informal; portrayals; often two-stage.
Feedback	At discrete intervals; often only once, at end.	Informal; continuously evolving as needed by audiences.
Form of feedback	Written report, indentifying variables and depicting the relationships among them; symbolic interpretation.	Narrative-type depiction, often oral (if that is what the audience refers), modelling what the programme is like, providing vicarious experience, 'holistic' communication.
Paradigm	Experimental psychology.	Anthropology, journalism, poetry.

Source: E. G. Guba and Y. S. Lincoln, *Effective Evaluation* (San Francisco, Jossey-Bass, 1981), 28.

Curriculum criticism as part of responsive evaluation

As part of responsive evaluation, curriculum criticism derives its rationale from the fact that its proponents regard curriculum development as an art and not as a science. Mann,[42] Eisner,[43] Vallance,[44] and Willis *et al.*[45] believe that curriculum development is an art which should utilize techniques of criticism from art and literary criticism. Vallance sees curriculum criticism as aiming 'at increasing the curriculum users' discrimination, sensitivity to, and, understanding of the materials they are working with or contemplating working with'.[46] The standards by which it can be judged cannot, according to Eisner,

> be taken from the domain of traditional educational research because of the commitment of research and theory to replication and generalization . . . The description is judged not by whether it itself is an accurate portrayal of the thing it describes and it therefore illuminates one's perception of that object.[47]

Criticism remains an art of disclosure or revealing and ordering the products of human artistic endeavour 'with its criteria for adequacy and corroboration residing in the scope, precision and coherence of insight it yields into the properties of single works — it is this corroboration that criticism in curriculum can bring'.[48]

Curriculum criticism as part of curriculum research

Curriculum as part of curriculum research is seen as applied to curriculum analysis which is not specifically decision-oriented. The main purpose of such criticism is seen as the disclosure of meaning and the extension of knowledge about the curriculum. The critic, unlike the evaluator, is free to choose his own standards and values and so focuses on particular issues rather than attempting to cover a wide range. It is he, together with other educational researchers, who should provide the basic knowledge on which the evaluator can draw. The evaluator is seen essentially as a technologist whose service role depends on the state of educational knowledge.

[42] J. Mann, 'Curriculum criticism', *Teachers College Record* (1969), LXXI, 27–40.

[43] E. W. Eisner, 'The perspective eye towards the reformation of educational evaluation'

[44] E. J. Vallance, 'Aesthetic Criticism and Curriculum Description' (Stanford CA, Stanford Univ., Ph.D. thesis, 1975).

[45] G. Willis (ed.), *Qualitative Evaluation: Concepts and Cases in Curriculum Criticism* (Berkeley CA, McCutchen, 1978).

[46] Vallance, 'Aesthetic Criticism and Curriculum Description', 48.

[47] Eisner, 'The perspective eye towards the reformation of educational evolution', 45.

[48] Vallance, 'Aesthetic Criticism and Curriculum Description', 49.

A critical analysis of curriculum criticism and its potential contribution to curriculum analysis

The argument that curriculum development should be regarded as an art and not as a science is probably a half-truth. There is a sense in which curriculum development can also be regarded as a science: for example, materials can be interpreted scientifically in terms of the modes of representation — enactive, iconic or symbolic — they come in. There is ample evidence from cognitive theory, for example, that children at Piaget's concrete operations stage of cognitive development learn more quickly and more efficiently if presented with learning materials in a concrete, rather than abstract, form.

An emphasis on subjective responses to curriculum materials might degenerate into solecism thereby overlooking useful findings from the theory of instruction. However, curriculum criticism's main concern with developing or 'increasing the curriculum user's discrimination . . . and understanding of the materials they are working with' is important for our appreciation of curriculum in action. It is through curriculum materials that the goals and purposes of a curriculum project are likely to be realized. Materials analysis can also force teachers and analysts to reflect on the objectives of the project with a view to testing for internal consistency between set objectives and content materials. This aspect of curriculum criticism is thus invaluable to curriculum analysis for its planning and development. But, useful as it might be, curriculum criticism is likely to appeal more to those analysts and critics trained in art and literary criticism. By and large, it will remain an ancillary activity to curriculum research, evaluation or situational analysis.

SITUATIONAL OR CONTEXTUAL ANALYSIS AS A TOOL FOR CURRICULUM ANALYSIS

The concept of 'situational analysis' or 'contextual analysis'

Concepts like 'situational analysis', 'contextual analysis', and 'analysis of antecedents' are not very well defined in the literature on curriculum planning and development, and tend to be used interchangeably. Hawes states that what he calls 'examining the context of the curriculum', Malcolm Skilbeck refers to as 'situational analysis'.[49] There is thus a suggestion that the terms are used to refer to the same phenomenon, but one is discussing curriculum at a micro level and the other at the school level. Lawton discusses the same issues under 'factors influencing the curriculum',[50] while Taba discusses them under 'analysis of society as a basis for planning curriculum'.[51] These differences are significant

[49] H. Hawes, *Curriculum and Reality in African Primary Schools* (London, Longman, 1979), 10.

[50] Lawton, *Social Change, Educational Theory and Curriculum Planning*, ch. 3.

[51] H. Taba, *Curriculum Development: Theory and Practice* (New York, Harcourt Brace, 1962).

because they are intentional: they indicate the importance the writer or writers attach to the terms they use.

In my view, Lawton tends to reify his 'factors'.[52] They are treated not as problematic, but as givens, as if they have a life of their own, which by implication makes fundamental changes rather difficult. Taba tends to emphasize the influence of the intervention of individuals or groups of people whether she is discussing the economic, social or political factors.[53] She tends to concentrate on the contribution of different interest groups in making these factors what they are, rather than on the factors themselves. She emphasizes the pluralism of values as a result of different conventions of different indentifiable communities that constitute American society. This lack of a common approach and a common language in curriculum theory makes it difficult for theorists to make a breakthrough into new areas as there is a lot of 'reinventing the wheel' in which theorists write about fundamentally the same things, but by using different terminology they appear innovative. For my purposes, 'contextual' and 'situational' analysis will be used interchangeably.

A critical analysis of situational analysis as a tool for curriculum analysis

As indicated above, the lack of a common language or vocabulary among theorists results in their failure to develop new insights and possibilities for studying antecedents. What we have are normative statements on 'what we should do', or 'how certain factors will result in certain conditions', with very little empirical evidence to back up the claims made. Nor is the exact nature of the effect these factors have on the curriculum stated. For example, Skilbeck suggests that stability in environment can be reflected in the curriculum by, among other things, traditional pedagogy, the fixed curriculum, long-lasting textbooks, settled teacher roles and authority relationships, and method courses in teachers' colleges.[54] On the contrary, these could be used to resist change, especially where non-innovative headmasters and college principals have the power to control the curriculum. Thus, as Neal points out, there is little evidence that principles of curriculum and instruction are significant in shaping the curriculum.[55] Neither are there many studies relating specific instructional practices to a given societal force or conditions. 'Curriculum seems to plod on on faith rather than on theory', as Shutz noted.[56]

[52] Lawton, *Social Change, Educational Theory and Curriculum Planning.*

[53] Taba, *Curriculum Development: Theory and Practice.*

[54] M. Skilbeck, 'School-based curriculum development', in J. Walton and J. Welton (eds.), *Rational Curriculum Planning* (London, Ward Lock, 1976), 156.

[55] See Walton and Welton, *Rational Curriculum Planning.*

[56] R. E. Schutz, 'Methodological issues in curriculum', *Review of Educational Research* (1969) XXXIX, 359–66.

Literature on situational analysis does not generally show how different factors actually influence the curriculum, whether intrinsically or extrinsically; yet this is important if an analysis of the different determinants, components and processes of the curriculum is to be made. Situational analysis models are generally derived from functionalist theory which tends to treat different factors in a phenomenon as givens and not as problematic. This reification in turn tends to result in an inadequate analysis of the phenomenon or system in question. In the case of the curriculum, situational analysis gives a partial view of the factors that influence it, for example, the term 'society' is often reified. 'Society' is often regarded as comprising communities and people with common interests and yet we know that modern societies comprise different cultural communities with different goals and aspirations. A curriculum analysis that ignores the pluralism of values and goals can only give a partial view of the forces that act on that curriculum. A good example is Lawton's regard of the curriculum as 'a selection from culture';[57] yet societies are diversified and multicultural. The result of such an analysis is that 'culture' refers to the 'dominant culture' in a particular society an does not necessarily refer to the cultures of the majority of the people.

Lastly, there are sometimes contradictions between statements of aims and objectives and actual practices. For example, among the declared aims of most curriculum plans are ideas about democracy within given socio-economic and political contexts. There are also expressed notions about 'respect for persons',[58] and yet the curriculum considered worthwhile in most educational systems with Western liberal traditions is chosen from minority élite cultures. For some pupils (the minority), the curriculum is to a large extent a continuation of their life-styles in terms of language and other aspects of the hidden curriculum, while for others (the majority) it is a bewildering phenomenon. There is also still in schools a mismatch between theories of child development and their progressivist ideology and evaluation criteria which are still very much achievement-oriented, positivistic and psychometric.

From the above it can be seen that contextual analysis alone cannot meet the needs of curriculum analysis envisaged. It can, however, contribute towards a useful model of curriculum analysis for curriculum planning and development as I will discuss below.

The contribution of contextual analysis towards curriculum analysis

Situational analysis models derive from functional analysis theory, or are at least consistent with it. Most of the analyses of curriculum antecedents have been done

[57] Lawton, *Social Change, Educational Theory and Curriculum Planning*, 31–2.

[58] See R. S. Peters, *Ethics and Education* (London, Allen and Unwin, 1966).

through the use of curriculum planning and development models (for example, Taba,[59] Lawton,[60] Skilbeck,[61] etc.) which are consistent with functionalism and should therefore share its weaknesses as indicated earlier. Indeed, statements of aims and objectives emanating from such analysis have tended to be normative and descriptive. However, the models have largely identified the key curriculum antecedents and processes that influence or are a part of curriculum planning and development. What is needed is a further analysis of existing identified factors that goes beyond functionalism by treating the antecedents not as givens, as is the case now, but as problematic. Such an analysis would point a way to developing instruments for gathering, processing and assessing data needed for curriculum analysis.

Some writers on curriculum planning and development, notably Hawes,[62] have wittingly or unwittingly introduced situational analysis techniques from curriculum criticism — an aspect of responsive evaluation. Instead of presenting antecedents and other contextual factors as dry scientific data, Hawes reminisces and dramatizes, and at times is even anecdotal. In consequence, curriculum in action in anglophone African primary schools becomes a drama where people are caught trying to make sense of bewildering foreign phenomena under very difficult conditions, acting under the 'mistaken' belief that their lives depend on it. Hawes does not prescribe solutions or pass judgement: he illuminates the problems and their causes as he and others saw them. There is a lot of quantitative data, but it is used to support his qualitative appraisal of the problems as he and others saw them. What emerges is not a predictable cause-and-effect relationship between antecedents and processes as some basic texts on curriculum planning and development try to suggest resulting in their extensive use of quantitative methods of evaluation as functionalist interpretations. The picture that emerges is not one based on faiths and hopes intended to portray the official view; rather, it is one that shows the uniqueness of each curriculum enterprise across African countries as various social and economic factors interact. Generalizations are made where applicable, but even these are qualified, since conditions in different colonies differed.

It is analyses like these that will enable curriculum planners to focus attention on real issues and real problems and not plan on the basis of official hopes and faiths. This is not a celebration of the victory of phenomenology over functionalism. Rather, the two paradigms are complementary. Data collection for such analysis could use both quantitative and qualitative approaches from

[59] Taba, *Curriculum Development: Theory and Practice.*

[60] Lawton, *Social Change, Educational Theory and Curriculum Planning.*

[61] Skilbeck, 'School-based curriculum development'.

[62] Hawes, *Curriculum and Reality in African Primary Schools.*

evaluation theory but with a bias towards the case study and other responsive approaches. This is important especially in Africa where a single variable like the presence of a 'philosopher' president like Nyerere can have a marked impact on the curriculum in the whole system of education.[63] The purpose of such analytical evaluations would not be to pass judgement on the programmes but would be an attempt to try and discover relationships between antecedents and processes that could facilitate curriculum planning and development.

FUNCTIONAL ANALYSIS AS A TOOL FOR CURRICULUM ANALYSIS

Functional analysis: its goals and methods

Structural-functional analysis as a sociological analysis model attempts to organize knowledge in terms of structures and functions (derived from natural science) with a view to enabling a detailed study of a social phenomenon or system to take place. Based in the agricultural-botany paradigm, the system developed as an attempt to go beyond historical judgement in accounting for how a system came into being and in accounting for its present status. It seeks to move from mere description to scientific explanation. For example, Levy developed a procedure of functional analysis that assumes that data can be analysed in terms of social actions and their consequences.[64] The procedure revolves around three questions:

1) What observable uniformities (or patterns) may be discerned in the phenomenon studied?
2) What conditions (empirical state of affairs) may be discovered? (This asks what functions have resulted.)
3) When processes (or actions) may be discovered in terms of the above structures, what resultant conditions may be discovered? (This asks what functions operate in terms of a given structure.)

In an attempt to answer the above questions, Levy listed the following steps:[65]

1) Definition of the concrete unit to which analysis was to be applied.
2) Determination or discovery of the setting or context of the unit.
3) Discovery and explicit statement (listing) of the minimal conditions (functions) implied for the continued existence of such a unit in such a setting without undergoing structural change.
4) Discovery of the patterns (structures) in terms of which operations must take place if those minimal conditions for continuity (functions) are to be produced; that is, what observable uniformities or structures must exist such that operations in terms of them result in the needed functions?

[63] J. Nyerere, *Education for Self-Reliance* (Dar es Salaam, Govt. Printer, 1967).
[64] M. Levy, *The Structure of Society* (Princeton, Princeton Univ. Press, 1952), 27.
[65] Ibid., 34–43.

Table II

A PARADIGM FOR FUNCTIONAL ANALYSIS IN SOCIOLOGY

1) What are the standardized or repetitive items (units) of phenomena to which functions are imputed?
2) What situations involve observable motives and purposes, the subjective dispositions of the participants?
3) What are the intended and unintended objective consequences of an item? That is, what are the functions and dysfunctions?
4) For how many other units (systems) has the item some functional consequences? That is, what is the range of application of a particular function?
5) What are the functional requirements; that is, the needs, imperatives, or prerequisites, of the system under observation? How can these be determined in a situation where there can be no experimentation that enables their isolation?
6) What are the social mechanisms (structures) that operate to perform a designated function?
7) What are the alternative means or substitutes by which functional requirements might be met? How can these functional alternatives be accurately determined?
8) How does the structural context limit the range of variation in the items which can effectively satisfy functional requirements? Does the structure restrain interdependence of certain functions? That is, can other structures perform functions equally well?
9) How does a structure accommodate dysfunctions of strain, stress, and tension? Will such knowledge enable anticipation of most probable directions of change?
10) To what degree is the analysis limited by the difficulty of locating adequate samples of social systems that can be subjected to comparative study?
11) To what extent has the observer injected his own bias or ideological positions?

Source: R. Merton, *Social Theory and Social Structure* (Glencoe, IL, The Free Press, rev. edn, 1957), 50–4.

It can be seen from the above that the functions are a starting point in finding the structures of a system and that the structure can only be found by observing the system in action.

Merton enlarged on this by asking a series of eleven questions, answers to which would reveal the structures and functions of a system and how they are related to each other (see Table II).[66] Merton's model constitutes a set of criteria of

[66] R. E. Merton, *Social Theory and Social Structure* (Glencoe IL, The Free Press, 1957), 50–4.

relevance for the substantive data to be included in this type of research. According to Levy the end product of a well-conducted structural–functional analysis should be the following:[67]

1) Conceptual tools for analysis that are relevant and accurate.
2) A theoretical framework useful for either isolated (single case) or comparative analysis.
3) Empirical generalizations for eventual experimental testing (these would be statements about the relationship of two or more structural variables or a system).
4) A set of indications of important lines for further development.
5) A means of restocking sources of errors in concepts and relations.

It can be noted that the above provides a useful guide towards theory building. Structural–functional analysis is in a way a metatheory. Faix observed that 'structural–functional analysis is a conceptual scheme or taxonomy that is preparatory to development of a theoretical system. It sets a framework for data-gathering that can eventually lead to statistical analysis and development of true science'.[68]

Weaknesses of functional analysis as a tool for curriculum analysis

Functionalism has been criticized by different social scientists for failing to provide adequate theoretical explanations in their particular fields. These criticisms, although important to our understanding of functional analysis as a theoretical paradigm, are peripheral to my immediate concerns. What concerns me is what I see as its main weaknesses as a tool for curriculum analysis. Functional analysis on its own cannot provide a model for curriculum analysis because its methodology is derived from the agricultural-botany model in the natural sciences. It seeks to move from description to scientific explanation; yet curriculum data cannot be systematized in a scientific way. Curriculum development can be rational but it is unlikely to be systematic by the very nature of its variables that cannot be controlled. Attempts to utilize the systems approach in curriculum theory can only be partially successful, while attempts to use the systems approach in situational analysis have also been partially successful, as indicated above. The apparent consistency in curriculum variables can be illusory, as what obtains in one situation cannot be replicated elsewhere.

Functional analysis also tends to have an ideological bias towards conservatism, as it assumes that a system seeks to maintain itself in terms of an equilibrium, that is, the homeostasis principle. It is oriented towards maintaining the status quo. Because it is positivistic, the needs of the system are assumed to be flawless

[67] Levy, *The Structure of Society*, ch. 2.

[68] T. L. Faix, 'Toward a Science of Curriculum: Structural–Functional Analysis as a Conceptual System for Theory and Research' (Madison, Univ. of Wisconsin, Ph. D. thesis, 1964), 75.

and unchanging. For curricula operating in post-colonial developing countries, there is a need for change as the inherited curricula do not always reflect the values of the majority of the people. There is therefore a need to look to theories that can accommodate change without destroying the system lest we 'throw away the baby with the bath water'. Functional analysis is least likely to reach such an accommodation.

Contribution of functional analysis towards curriculum analysis

In spite of the weaknesses outlined above, functional analysis has been used as a metatheory on the basis of which models and principles on the operations of social phenomena have been derived. Its ability to identify basic structures in phenomena enables theorists to build on these structures by asking relevant questions and using techniques from other social science paradigms like phenomenology and ethomethodology. Kuhn observed that there was a paradigmatic crisis in the social sciences and no one paradigm could provide theoretical explanations to all the concerns of social scientists.[69] For our purpose, functional analysis forms the basis of our contextual analysis model, but we go beyond functionalism by treating the basic structures, such as society, culture, and knowledge, not as givens but as problematic. For example, functional analysis does not reveal the plurality of values and the mutiplicity of cultures and sub-cultures in society. Its analysis tends to reify them which in turn leads to a partial analysis of the actual factors and antecedents that influence the curriculum. By treating the structures and functions as problematic, more information can emerge; for example, curriculum ceases to be just a selection from a culture and becomes a selection from cultures. This difference has enormous implications for curriculum planning, development and evaluation. A curriculum developer who works on the basis of curriculum as selection from 'cultures' looks for more materials and resources to meet the needs of a diversified target group, whereas a developer working on the basis of Lawton's definition[70] provides materials only for a representative group and not for individuals in the group. Because a conceptual model of the curriculum can be idealized through functional analysis, the curriculum analyst can use evaluation techniques such as those in Stake's[71] model to test for, say, internal consistency of the model by examining the logical contingency and congruency between structures and functions. Through the use of documentary and empirical evidence, the analysis of the relationships should go well beyond the limits of functional analysis. Methods of collecting data would be both quantitative and qualitative. The purpose here would not be evaluation in

[69] S. T. Kuhn, *The Structure of Scientific Revolutions* (Chicago, Univ. of Chicago Press, 1970).

[70] See Lawton, *Social Change, Educational Theory and Curriculum Planning.*

[71] Stake, 'The countenance of educational evaluation'.

the sense of providing information to influence a particular set of decisions; one would be using evaluation techniques to analyse the curriculum with a view to understanding how precedents and processes relate to each other.

Functional analysis can also be used to detach the school curriculum as a system from other societal systems with a view to finding out whether the curriculum is the only instrument that can economically and equitably be used to fulfil some of the functions society has assigned to it; for example, the function of distributing life-chances among the young. In Africa today, those few who have a good education are comparatively better off than the majority who do not. But if our societies value participatory democracy as opposed to representative democracy, is the use of the school curriculum with its inherent and intrinsic selective functions the most democratic way of distributing life-chances among the young — especially if some people can buy or bribe their way into good schools that can enhance their chances of a good life? In emerging African states, the school curriculum as a means of distributing life-chances has actually become dysfunctional as it tends to induce a sense of failure in life in the majority who do not succeed at school, and at the same time alienates them from their traditional rural values. The curriculum as it has emerged has tended to undermine the quest for national unity and social cohesion by creating communities of 'haves' and 'have-nots' in these societies; and the gap between the two seems to increase by the day. This does not augur well for their political stability.

In sum, functional analysis imposes some sort of systematic order on otherwise bewildering phenomena on the basis of which further analysis can be made using techniques from other paradigms. But functional analysis alone cannot provide sufficient instruments for curriculum analysis.

CURRENT APPROACHES TO CURRICULUM ANALYSIS

Eraut *et al.* claim that the term 'curriculum analysis' is difficult to define because the term 'curriculum' is itself difficult to define.[72] They contend that one could have evidence of the curriculum, be it documentary or empirical, but the term 'curriculum' is elusive to define. Thus, curriculum analysis would be understood in terms of the evidence available, be it empirical or documentary. On the whole, literature on curriculum analysis is rather scanty, so scanty, in fact, that it is difficult to find alternative views that fundamentally differ with Eraut. Curriculum analysis, it appears, has not been considered as a separate activity but as a part of other ongoing activities such as curriculum evaluation, curriculum research, or curriculum materials analysis.

[72] Eraut *et al.*, *The Analysis of Curriculum Materials*, 11.

Curriculum analysis as a part of curriculum evaluation

In curriculum evaluation, which Cronbach defines as 'the collection and use of information to make decisions about an educational programme',[73] it is considered that the provision of evidence alone, be it documentary or empirical, is insufficient. The evidence should be analysed and be related to the standards and values of decision-makers of different persuasions. Eraut *et al.* suggest three stages in evaluation when curriculum analysis can be applied.[74] In formative evaluation, its audience would be the development team and its purpose would be to guide further development. In the initial stages of the evaluation, and in the final stages of summative evaluation, its audience would be decision-makers and its purpose would be to guide their decisions. But in all three cases, Eraut *et al.* maintain, the goal should be the same, that is, to analyse all available evidence and relate it to different educational perspectives;[75] but in each case the role is different. In a way, curriculum analysis is in this sense similar to Scriven's intrinsic evaluation that includes goal, consistency and content analyses.[76]

Curriculum analysis as a part of curriculum research

In curriculum research, curriculum analysis is looked at in the same way as curriculum criticism, which I have examined above.

Curriculum analysis as a part of curriculum materials analysis

Eraut *et al.* define materials analysis as 'an organized set of questions and/or techniques designed for general application to given types of curriculum materials with the aim of elucidating and evaluating their most important characteristics'.[77] The functions of such an analysis are stated as:

1) A descriptive analytic function in which materials are described and analysed according to some curricular model, either the analyser's or the author's. The purpose is not only to describe the material but also to elucidate its rationale and structure.
2) An evaluation function in which the materials are judged against a range of criteria.
3) A decision-making function in which the purpose is to provide a brief for those responsible for making decisions about the materials. These could be selection decisions or implementation decisions.

The authors go on to give a set of materials evaluation criteria which Eraut and his team developed at Sussex; these appear in Table III.

[73] Cronbach, 'Course improvement through evaluation',

[74] Eraut *et al.*, *The Analysis of Curriculum Materials*, 17–19.

[75] Ibid.

[76] Scriven, 'The methodology of evaluation'.

[77] Eraut *et al.*, *The Analysis of Curriculum Materials*, 32.

Table III

SUSSEX SCHEME FOR THE ANALYSIS OF CURRICULUM MATERIALS (DECEMBER 1974 VERSION)

Part 1	INTRODUCTION
1.1	Basic Facts
1.2	Author's Rationale
1.3	Issues and Perspectives
Part 2	DESCRIPTION AND ANALYSIS OF THE MATERIALS
2.1	Description of Pupil Materials
2.2	Description of Teacher Materials
2.3	Structure of the Materials
Part 3	THE MATERIALS IN USE
3.1	Main Features
3.2	Possible Modifications and Additions
3.3	Patterns of Use
3.4	Implications for Implementation
Part 4	EVALUATION
4.1	Other Sources of Evidence
4.2	Evaluation of Aims
4.3	Evaluation of Curriculum Strategy
4.4	Evaluation of Materials
4.5	Suitability for the Context
Part 5 (Optional)	DECISION-MAKING IN A SPECIFIC CONTEXT
5.1	Constraints of the Particular Context
5.2	Possible Patterns of Use
5.3	Implementation Strategies
5.4	Summary of Decision Issues

Source: M. Eraut *et al.*, *The Analysis of Curriculum Materials* (Brighton, Univ. of Sussex, Education Area, Occasional Paper 2, 1975), 79.

A critical appraisal of current approaches to curriculum analysis

The aspects of the curriculum that curriculum analysis examines are important in themselves, but they are not the whole curriculum as the term 'curriculum analysis' suggests. Curriculum analysis, for me, should provide a basis for an understanding of how the different antecedents and processes interact to produce the phenomenon we refer to as the curriculum. In both curriculum evaluation and materials analysis, curriculum analysis plays a secondary role, and the extent to which its findings can be useful to our understanding of the whole curriculum depends on the nature of the evaluation exercise and the nature of the materials under analysis, respectively. And yet the term 'curriculum analysis' implies, *sui generis*, a broader perspective. Materials analysis and curriculum evaluation should be aspects of a broader approach to curriculum analysis since they are only concerned with aspects of the curriculum and not the whole curriculum. Thus the current theory and practice of curriculum analysis does not provide an analysis model that will enable us to understand the curriculum as a whole: what it is, how it came to be what it is, and how it can be improved or modified to serve our purposes and needs. For there is a sense in which the curriculum has become reified, ossified and institutionalized that we serve its purposes rather than it ours. We seem to have forgotten Musgrove's reminder that it is a 'contrived activity', 'properly artificial' which should make it amenable to change and not become the institution that it now is.[78] Curriculum analysis, as I see it, should enable us to have a wider perspective of the curriculum by revealing the relationships between the different components that constitute the phenomenon we refer to as 'the curriculum'.

CURRICULUM ANALYSIS: A NEW PERSPECTIVE

I have critically examined curriculum evaluation, curriculum criticism, situational analysis, functional analysis and curriculum analysis, as it is now, with a view to assessing their contributions towards our understanding of what the curriculum is and how it operates. I came to the conclusion that none of the above on its own could give us an adequate analysis of the curriculum. Indeed, given its complexity, no single technique could adequately accomplish this. I have, however, suggested various ways in which the various methods and techniques already existing within the curriculum field can be utilized for curriculum analysis in its planning and development. I believe that a rational and systematic synthesis of the relevant techniques discussed above can produce a curriculum analysis approach that will help us in our understanding not only of curriculum planning and development in particular but also of curriculum theory in general. Thus for

[78] F. Musgrove, 'The contribution of sociology to the study of the curriculum', in J. Kerr (ed.), *Changing the Curriculum* (London, Hodder and Stoughton, 1968), 96–109.

Table IV

A MODEL FOR CURRICULUM ANALYSIS FOR DEVELOPMENT

Curriculum Planning		*Curriculum Analysis*			
Activity	*Nature of decision and decision-makers*	*Examples of questions leading to analysis*	*Examples of data sources*	*Nature of analysis*	*Some exponents of analysis*
Formulation of national goals and the role of curriculum and education.	Political decision by politicians and education advisers.	1) What is the rationale behind the set goals and objectives? 2) How realistic are the goals in terms of the contextual milieu?	Documentary and empirical (e.g. party manifestos), views of the man in the street, documents on the economy, population distribution, etc.	Situational analysis, analysis of antecedents, curriculum evaluation rationale, decision-making, goal analysis, curriculum criticism.	Saylor *et al.*, Hawes, Skilbeck, Stake, Cronbach, Scriven.
Selection from cultures to support set goals and objectives (curriculum plan).	Political and professional decisions by academics, college lecturers, Ministry officers.	1) Is there isomorphism between the plan and national political goals? 2) How feasible is the plan in relation to the contextual milieu?	Curriculum plan, official papers on national development, statistics on teacher–pupil ratios, finance and resources available.	Curriculum evaluation (e.g. contextual analysis).	Stake, Scriven, Hawes.
Development of materials to support curriculum plan.	Professional and economic decisions by curriculum workers, school teachers, academics and administrators.	1) Can the books and other resources available support the aims and objectives above? 2) What additional outside support do schools need to meet the set goals?	Prescribed texts, syllabuses, school software, etc.	Content analysis, internal consistency analysis, materials analysis, functional analysis, curriculum criticism.	Scriven, Cronbach, Stake, Eraut *et al.*, Mann.

Curriculum Planning		*Curriculum Analysis*			
Activity	*Nature of decision and decision-makers*	*Examples of questions leading to analysis*	*Examples of data sources*	*Nature of analysis*	*Some Exponents of analysis*
Teaching methods and learning activities for pupils.	Professional decisions by curriculum developers, college lecturers, academics and teachers.	1) Are the methods in line with the philosophy of the curriculum? 2) Are the teachers prepared for the programme? 3) What support services are available to teachers and pupils?	Empirical and documentary data (e.g. classroom observations, examining teachers' plan books and schemes of work, checking school software) on laboratories, etc., video material.	Clinical supervision, interaction analysis through classroom observations, analysis of video in microteaching.	Scriven, Flanders.
Curriculum implementation and action.	Administrative and professional decisions by administrators, curriculum workers, academics, teachers and education officers.	1) Are there enough schools, teachers and facilities to implement the policy suggested (e.g. universal education plan)? 2) What changes need to be made to existing practice?	Empirical and documentary, e.g. education officers' reports, teachers' reactions, planning division documents.	Document analysis, observations, visits to schools and curriculum centres.	
Evaluation.	Political and professional decisions by education officers, interested parties, teachers, education officers, etc.	1) Does the curriculum achieve what it was designed to achieve? 2) What kind of values does it actually impart? 3) Is there evidence of secondary or tertiary effects?	Education officers' reports, commissions of inquiry, pupils' results, the press or media, teachers and parents.	'Blue Ribbon' evaluation, amateur evaluation, professional evaluation, premature evaluation, connoisseurship model.	Tyler, Stake, Scriven, Eisner, Cronbach.

the remainder of this article, I will attempt to define curriculum analysis as I envisage it, propose its goals and purposes, and suggest how it can be applied in practice. In order to avoid repetition, a diagrammatic representation of curriculum analysis will be used to show how the various theories, methods, and techniques discussed above can be called upon to service curriculum analysis (see Table IV).

Definition, goals and purposes of curriculum analysis

For me, curriculum analysis is the process of gathering, analysing and interpreting curriculum data through quantitative and qualitative evaluation methods for the purpose of justifying its rationale and for illuminating and elucidating its internal consistency (i.e. the causal relationships and effects of different antecedents and processes) with a view to facilitating its planning and development. For the purpose of my analysis, I regard curriculum initially as a plan, and use the adaptation of Dave and Skager's model of curriculum planning and development to show how various techniques discussed above can be applied in analysing the curriculum as a plan at various levels.[79]

The Table itself borrows its conceptual structure from both functional analysis and situational analysis. Examples of the contributions of contextual analysis, curriculum evaluation, curriculum criticism and curriculum analysis are shown in the last two columns of the Table. It will be observed that the purpose of the analysis is not so much to pass judgement on the merit or otherwise of the curriculum plan but to illuminate the nature of the relationships at different levels of curriculum planning and development — some form of 'intrinsic evaluation', to use Scriven's words.[80] The analysis also tries to identify decision-makers at various levels of decision-making, the nature of the decisions they make, the nature and sources of data, and the nature of analysis and exponents associated with the different kinds of analyses. The lists are not exhaustive. What are given are possible examples, and additional data can be gathered as required; but the basic framework of thirty-six cells appears to be fundamental to my analysis. Some would object to the inclusion of 'teaching methods and learning activities' as these are sometimes regarded as belonging not to curriculum theory but to instructional theory. But I contend that to understand curriculum in action, we have to examine the nature of instructional materials and methods used. In the Table, the movement from one cell to another, whether horizontally or vertically, is based on logical contingency or congruency, respectively. For curriculum in action, this will have to be verified by empirical investigations. Only in this way

[79] R. Dave and R. Skager, *Curriculum Evaluation for Lifelong Education* (Oxford, Pergamon, 1977).

[80] Scriven, 'The methodology of evaluation', 33.

can claims about internal consistency within the curriculum be verified and curriculum theory improved.

I believe that curriculum analysis should be an ongoing activity in response to various forces that impinge on curriculum in action. It should aim at creating some kind of homeostasis within the curriculum as the impact of different forces is either assimilated or accommodated. Only in this way can the curriculum be more responsive to local needs and avoid becoming reified, ossified and institutionalized. The onus to monitor this seems to rest on academics from faculties of education in universities and colleges, curriculum development officers, education officers and subject inspectors who visit schools from time to time. The evidence they collect, be it documentary or empirical, should form the focus of detailed discussions during in-service seminars for teachers, or form part of curriculum studies courses for senior students at universities.

But, having said that, I should hasten to observe that there is also a counter argument against concern with theory for a field that is predominantly practical. There is a school of thought that genuinely argues that by focusing on theory curriculum discourse abdicates its responsibility to the practical concerns which are the proper subject-matter of the field. Productive curriculum discourse, it is argued, is deliberative, dealing in practical questions, and ultimately it is always brought to bear on concrete particular cases. Be that as it may, there is still an equally strong argument for establishing a theoretical and conceptual framework against which hypotheses can be formulated and tested with a view to improving the curriculum enterprise.